

Exhibit 12 to Complaint
Intellectual Ventures I LLC and Intellectual Ventures II LLC

**Example American Count 5 Systems and Services
U.S. Patent No. 7,324,469 (“’469 Patent”)**

The Accused Systems and Services include without limitation American systems and services that provide onboard WiFi in its airplanes; all past, current, and future systems and services that operate in the same or substantially similar manner as the specifically identified systems and services; and all past, current, and future American systems and services that have the same or substantially similar features as the specifically identified systems and services (“Example American Count 5 Systems and Services” or “American Systems and Services”).

On information and belief, the American Systems and Services provide onboard WiFi in its airplanes.

Wi-Fi and connectivity



Inflight Wi-Fi

Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, Hulu and HBO faster than ever before.

Source: <https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp>.¹

¹ All sources cited in this document were publicly accessible as of the filing date of the Complaint.

American Airlines Wi-Fi Subscription Plan

Live Chat

Air: Inflight Wi-Fi portal choose Contact Us

Ground: support.aainflight.com ↗

Phone:

1-844-994-4646

Email:

subscription.wifi@aa.com »

The inflight Wi-Fi portal will display "Wi-Fi Onboard (provided by Intelsat)"

Your credit card statement charges will appear as "AA WIFI"

Intelsat

Live Chat

Air: Inflight Wi-Fi portal choose Contact Us

Ground: <https://care.inflightinternet.com> ↗

Phone:

1-877-350-0038

Email:

support@wifionboard.com »

The inflight Wi-Fi portal will display "Wi-Fi Onboard (provided by Intelsat)"

Your credit card statement charges will appear as "WIFIONBOARD"

Source: <https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp>.

American has partnered with third parties, such as Intelsat, Viasat, GoGo, and Panasonic, to provide satellite-based WiFi to customers during American flights.

Our airline partners



AmericanAirlines



Source: <https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf>.

Source: <https://www.satellitetoday.com/mobility/2023/12/01/intelsat-wins-american-airlines-ifc-deal-to-connect-500-regional-jets/>.

American has partnered with other third parties, such as Intelsat, Viasat, GoGo, and Panasonic, to provide WiFi to customers during American flights. On information and belief, such WiFi services include satellite-based WiFi services that work in a manner similar to Intelsat's satellite-based WiFi solution, as described below.

Viasat

Live Chat

Air: Inflight Wi-Fi portal choose Contact Us

Ground: <https://inflight.viasat.com/AAL> ↗

Phone:

1-888-649-6711

The inflight Wi-Fi portal will display "Connected by Viasat"

Your credit card statement charges will appear as "VIASAT IN-FLIGHT WIFI 888-649-6711 CA"

Panasonic

Phone:

1-866-924-3715

Email:

aawifihelp@panasonic.aero »

The inflight Wi-Fi portal will display "Service provided by Panasonic"

Your credit card statement charges will appear as "AA-WIFI BY PANASONIC"

Source: <https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp>.

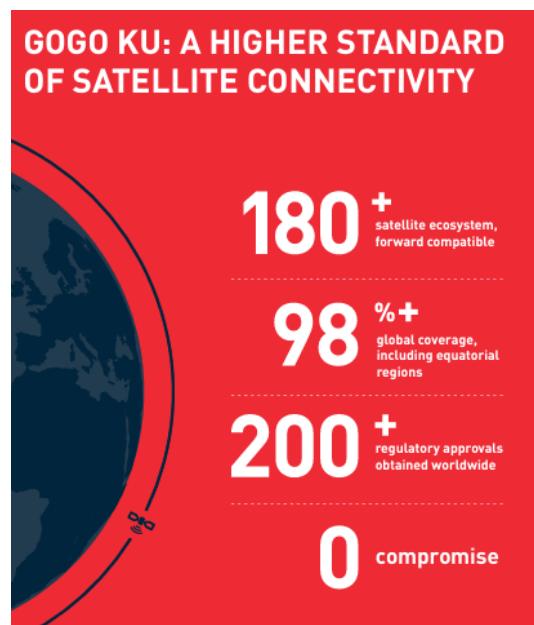
Source: <https://www.panasonic.aero/our-offerings/in-flight-connectivity>.

Source: https://www.viasat.com/content/dam/us-site/aviation/documents/565522_In-flight_Connectivity_011_aag.pdf.

How to connect

American's domestic narrowbody aircraft are equipped with either Gogo 2Ku or ViaSat Ka, both satellite Wi-Fi products that operate via satellites in the sky instead of towers on the ground. Once onboard, customers can connect to American's Wi-Fi signal on their personal device. From there, customers can log in to the provider's portal and choose to purchase internet, watch free live TV or stream hundreds of other complimentary entertainment options.

Source: <https://news.aa.com/news/news-details/2019/American-Airlines-Now-Offers-More-Aircraft-with-High-Speed-Wi-Fi-Than-Any-Other-Airline/default.aspx>.



Source: <https://cdn.gogoair.com/medialibrary/gogo/media/public/pdfs/brochures/gogo-brochure-2ku.pdf>.

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
[24.pre] An Internet Hotspot comprising:	<p>To the extent this preamble is limiting, on information and belief, the American Count 5 Systems and Services include an Internet Hotspot.</p> <p>On information and belief, American has partnered with Intelsat, Viasat, GoGo, and Panasonic to provide its passengers with in-flight Wi-Fi connectivity.² American's aircrafts are equipped with Intelsat, Viasat, GoGo, and Panasonic's In-Flight Connectivity system.</p> <p>Wi-Fi and connectivity</p>  <p>Inflight Wi-Fi</p> <p>Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, Hulu and HBO faster than ever before.</p> <p>Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp.</p>

² Plaintiffs' identification of In-Flight Connectivity (IFC) providers is based on publicly available information. To the extent American uses other satellite-based providers for IFC, Plaintiffs reserve the right to investigate such implementations of IFC.

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
[24.a] a satellite dish communicating with the Internet via one or more data links with a satellite;	<p>On information and belief, the American Count 5 Systems and Services include a satellite dish communicating with the Internet via one or more data links with a satellite.</p> <p>On information and belief, American's aircrafts are equipped for example with Intelsat's Global Connectivity system (GCS). Intelsat's GCS includes a satellite antenna mounted about the plane that communicates with the Internet using a satellite with a ground station.</p> <div style="background-color: #333; color: white; padding: 10px; border-radius: 5px;"><p> ⓘ What is Wi-Fi Onboard (part of Intelsat)?</p><p>With high-speed satellite Wi-Fi service provided by Wi-Fi Onboard (part of Intelsat), you can connect wirelessly to the internet using your personal electronic device like a laptop, tablet or smartphone.</p></div> <p>Source: Support Home Page (aainflight.com).</p> <p>Intelsat Global Connectivity Solution</p> <p>The global coverage and scalable capacity of the Intelsat Global Network enables streaming-quality Wi-Fi and Live TV to the entire cabin. Our access technology features a unique dual-phased-array antenna and proprietary modem for unsurpassed performance and industry-leading system availability. Intelsat can also help you efficiently manage the bandwidth you need to provide the service you want so you get the most out of your investment.</p> <p>Intelsat's open architecture design leverages today's Ku-band satellites and offers future-ready performance with high-throughput satellites (HTS). This allows Intelsat Commercial Aviation to deliver on the coverage and capacity needs for commercial airlines with global flight routes today—and tomorrow.</p> <p>The Intelsat Commercial Aviation Portfolio delivers best-in-class inflight experiences through powerful, integrated onboard systems, aero networks, and support.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>The diagram illustrates the American Count 5 Systems and Services. It features a central airplane with a dotted line extending from its rear towards the bottom right. On the left, a passenger is seated in an airplane seat, connected by a red box to a monitor showing a video call interface. Another red box highlights a monitor on the airplane's cabin wall displaying flight information. On the ground, a ground crew member stands near a tower, connected by a red box to a monitor showing a map or data. A red box also highlights a satellite in space, which is connected by a dotted line to a red box on the ground showing a small satellite dish. The entire system is interconnected by various red boxes, representing the 'American Count 5' architecture.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>GSO Satellite Access Technology</p> <h2>Signal Transmission</h2>  <div><p>2Ku Antenna</p><ul style="list-style-type: none">• Two large aperture phased-array antennas• Advanced beam forming and steering</div>  <div><p>A791 (Taurus) MODMAN</p><p>Hosts the next-generation modem which modulates and demodulates L-band signals</p></div>  <div><p>KANDU</p><p>Provides power to the satellite antennas and uses aircraft navigational data to control its movement</p></div>  <div><p>KRFU</p><p>Upconverts L-Band signals from the modem to Ku-band and amplifies them for transmission to the satellite</p></div>
	<p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p> <p>NGSO Satellite Access Technology</p> <h2>Signal Transmission</h2>  <div><p>ESA Antenna</p><ul style="list-style-type: none">• Electronically-steered array• Multi-orbit (GEO/LEO) antenna solution• Coverage over every route</div>  <div><p>A791 (Taurus) MODMAN</p><p>Hosts the next-generation modem which modulates and demodulates L-band signals</p></div>  <div><p>PSU</p><p>Power supply unit. Supplies power to both the Rx and Tx antenna arrays</p></div>  <div><p>ACMU</p><p>Antenna-pointing and networking data unit</p></div>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p> <p>Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.</p>
[24.b] at least one router operatively coupled to the satellite dish;	<p>On information and belief, the American Count 5 Systems and Services include at least one router operatively coupled to the satellite dish.</p> <p>On information and belief, American's aircrafts are equipped with Intelsat's GCS that include a router that is connected to a satellite antenna mounted about the plane that communicates with the Internet using a satellite with a ground station.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>The diagram illustrates a network architecture for aircraft connectivity. It shows two airplanes in flight, each connected to a ground station via dashed lines. The ground stations are connected to a central hub. From the hub, a line connects to a satellite in space. On the ground, there are three people: one sitting at a desk with a computer monitor, another standing next to a tower, and a third sitting at a desk with a computer monitor. A red box highlights a specific component within the central hub area, which contains several blue cubes and a blue oval.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>02 In-cabin Network</p> <p>Configurations for any aircraft</p> <p>Our satellite IFC solutions are suitable for large commercial aircraft with global flight routes, regional narrow-body fleets, and cargo aircraft. Linefit, SB, and STC retrofit options are available.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p>

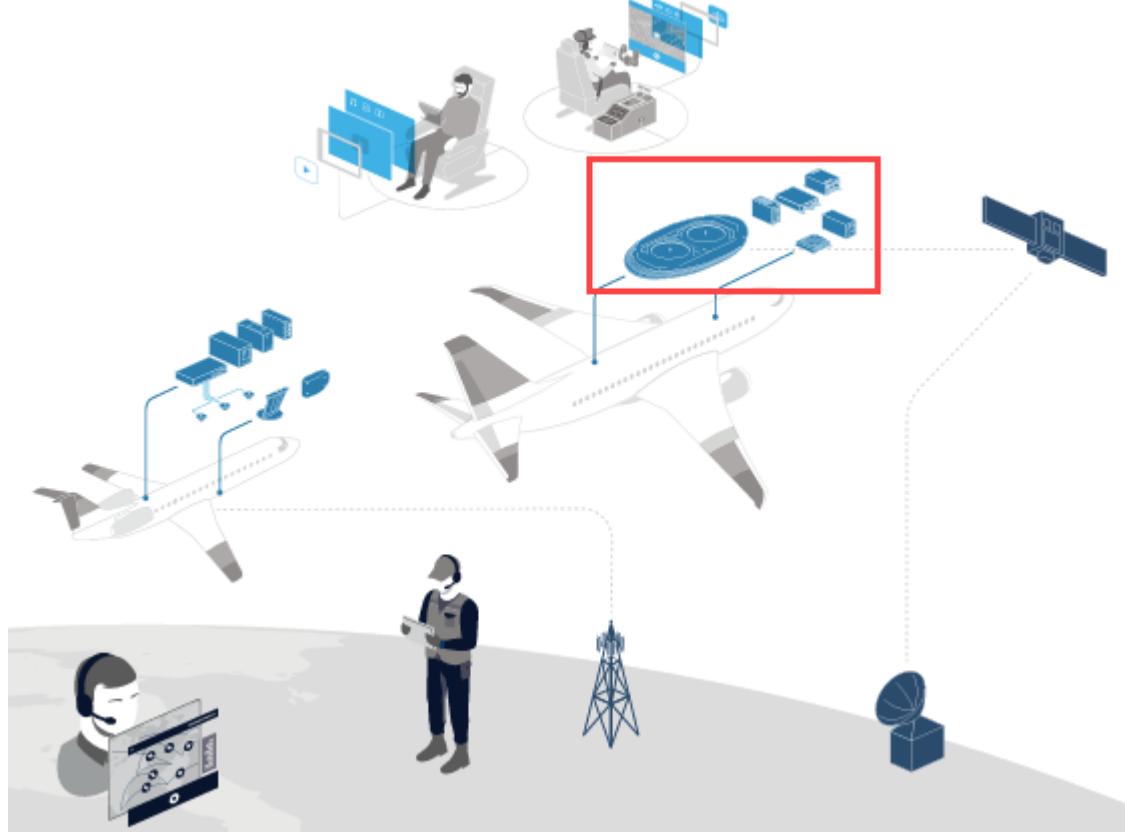
U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>In-cabin Network</p> <p>The In-cabin Network consists of the essential airborne hardware that interfaces with aircraft access technology to power the passenger experience. The Onboard Server enables wireless content access via any device, including seatback screens over the dedicated In-cabin Network.</p> <div style="display: flex; justify-content: space-around;"><div style="text-align: center;"><p>A791 MODMAN</p><p>The A791 MODMAN serves as both modem and onboard server in Service Bulletin (SB) and Linefit (LF) configurations.</p></div><div style="text-align: center;"><p>In-cabin axWAP</p><p>Wireless Access Points provide the Wi-Fi signal to devices in the cabin and support the latest 802.11 standards, including 802.11ax.</p></div></div> <p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p> <p>On information and belief, Intelsat offers WiFi solutions, used on American airplanes, that support satellite-based WiFi, and are connected to satellite equipment.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>GSO Satellite Access Technology</p> <h2>Signal Transmission</h2>  <div><p>2Ku Antenna</p><ul style="list-style-type: none">• Two large aperture phased-array antennas• Advanced beam forming and steering</div>  <div><p>A791 (Taurus) MODMAN</p><p>Hosts the next-generation modem which modulates and demodulates L-band signals</p></div>  <div><p>KANDU</p><p>Provides power to the satellite antennas and uses aircraft navigational data to control its movement</p></div>  <div><p>KRFU</p><p>Upconverts L-Band signals from the modem to Ku-band and amplifies them for transmission to the satellite</p></div>
	<p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p> <p>NGSO Satellite Access Technology</p> <h2>Signal Transmission</h2>  <div><p>ESA Antenna</p><ul style="list-style-type: none">• Electronically-steered array• Multi-orbit (GEO/LEO) antenna solution• Coverage over every route</div>  <div><p>A791 (Taurus) MODMAN</p><p>Hosts the next-generation modem which modulates and demodulates L-band signals</p></div>  <div><p>PSU</p><p>Power supply unit. Supplies power to both the Rx and Tx antenna arrays</p></div>  <div><p>ACMU</p><p>Antenna-pointing and networking data unit</p></div>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p> <p>Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.</p>
[24.c] a subscriber access unit operatively coupled between the satellite dish and the at least one router, the subscriber access unit being capable of authenticating a subscription account associated with a user prior to allowing the user access to the Internet; and	<p>On information and belief, the American Count 5 Systems and Services include a subscriber access unit operatively coupled between the satellite dish and the at least one router, the subscriber access unit being capable of authenticating a subscription account associated with a user prior to allowing the user access to the Internet.</p> <p>On information and belief, Intelsat's GCS includes a satellite antenna, multiple WAPs, and an onboard server that hosts information passenger-focused services.</p> <h2>In-cabin Network</h2> <p>The In-cabin Network consists of the essential airborne hardware that interfaces with aircraft access technology to power the passenger experience. The Onboard Server enables wireless content access via any device, including seatback screens over the dedicated In-cabin Network.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
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Claim(s)	Example American Count 5 Systems and Services
	<p>GSO Satellite Access Technology</p> <h2>Signal Transmission</h2>  <div><p>2Ku Antenna</p><ul style="list-style-type: none">• Two large aperture phased-array antennas• Advanced beam forming and steering</div>  <div><p>A791 (Taurus) MODMAN</p><p>Hosts the next-generation modem which modulates and demodulates L-band signals</p></div>  <div><p>KANDU</p><p>Provides power to the satellite antennas and uses aircraft navigational data to control its movement</p></div>  <div><p>KRFU</p><p>Upconverts L-Band signals from the modem to Ku-band and amplifies them for transmission to the satellite</p></div>
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U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
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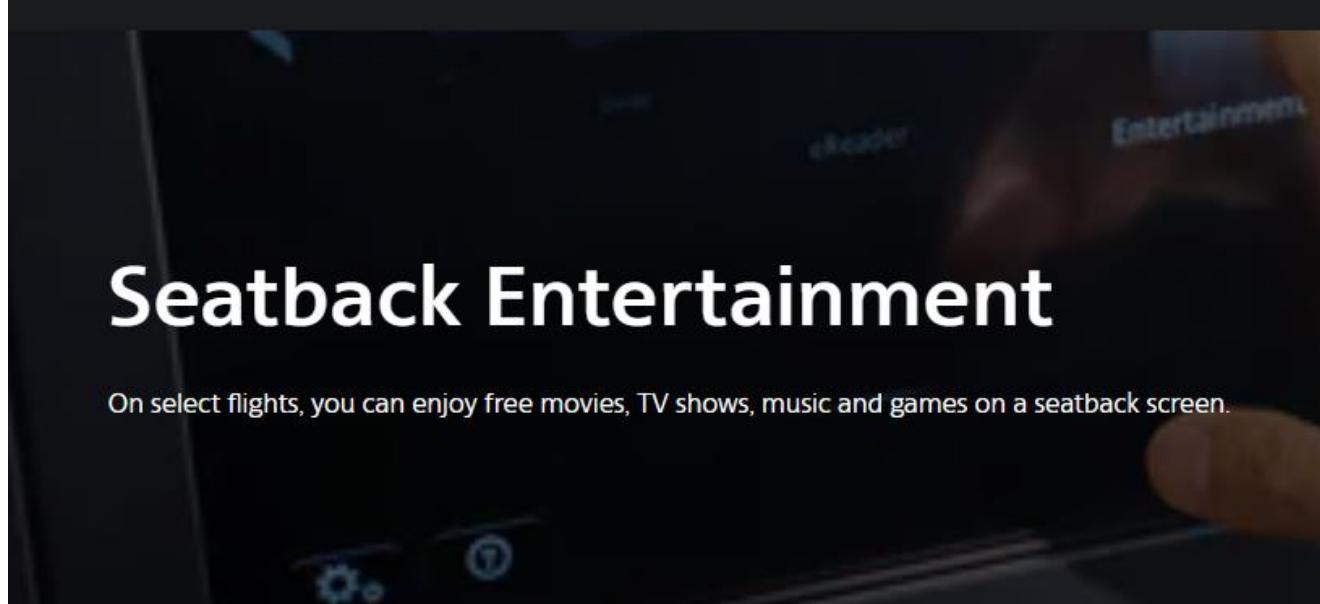
U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>passengers, and upgraded high-speed WiFi is available to certain American members or can be purchased.</p> <p>Wi-Fi and connectivity</p>  <p>Inflight Wi-Fi</p> <p>Upgraded, high-speed WiFi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, Hulu and HBO faster than ever before.</p> <p>Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp.</p> <p>Pricing</p> <p>You can always access aa.com for free during your flight.</p> <p>Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp.</p>

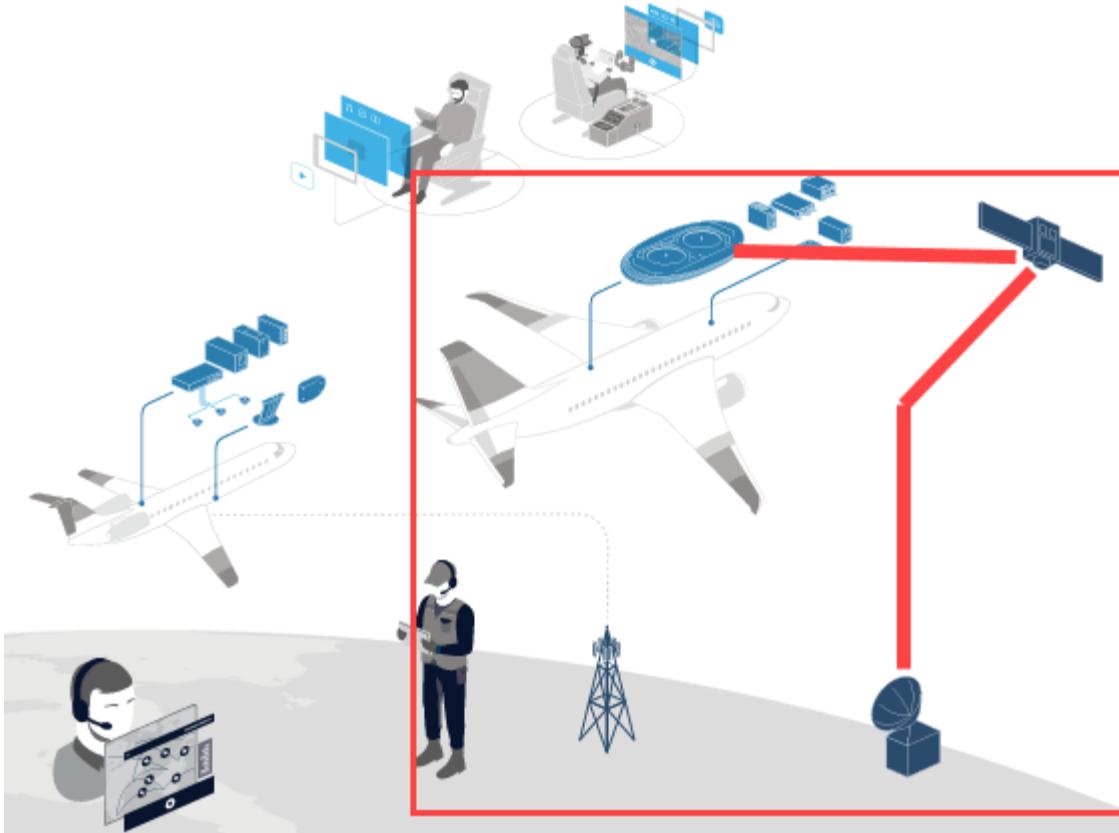
U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>④ How do I connect to Wi-Fi Onboard (part of Intelsat) in flight?</p> <p>Use your Wi-Fi-enabled device to search and connect to the 'aainflight.com' Wi-Fi signal. If you're not redirected, open a browser and enter aainflight.com.</p>
	<p>Source: https://support.aainflight.com/.</p> <p>④ How do I connect to my American Airlines Wi-Fi Subscription Plan in flight?</p> <ol style="list-style-type: none">1. Enable Wi-Fi on your device2. Search and connect to the 'aainflight.com' Wi-Fi signal3. Launch your web browser and go to aainflight.com and select 'Log in'4. Enter your AAdvantage number or username and password

U.S. Patent No 7,324,469 (Claim 24)	
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	<p>In-cabin Network</p> <p>The In-cabin Network consists of the essential airborne hardware that interfaces with aircraft access technology to power the passenger experience. The Onboard Server enables wireless content access via any device, including seatback screens over the dedicated In-cabin Network.</p> <div style="display: flex; justify-content: space-around;"><div style="text-align: center;"><p>A791 MODMAN</p><p>The A791 MODMAN serves as both modem and onboard server in Service Bulletin (SB) and Linefit (LF) configurations.</p></div><div style="text-align: center;"><p>In-cabin axWAP</p><p>Wireless Access Points provide the Wi-Fi signal to devices in the cabin and support the latest 802.11 standards, including 802.11ax.</p></div></div> <p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf. Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.</p>

U.S. Patent No7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
[24.d] a web-ready device operatively coupled to the at least one router, the web-read device having a browser application operating thereon for accessing the Internet;	<p>On information and belief, the American Count 5 Systems and Services include a web-ready device operatively coupled to the at least one router, the web-read device having a browser application operating thereon for accessing the Internet.</p> <p>On information and belief, American enables access to onboard WiFi through seatback and/or user devices that include a browser application for Internet accessibility.</p> <div style="background-color: #2e3436; color: white; padding: 10px; border-radius: 5px;"><p> ⓘ What devices can I use to access free entertainment?</p><p>You can access free entertainment on Apple iOS, Android, macOS and Windows. The browsers we support are Chrome, Safari and Edge.</p></div> <p>Source: https://support.aainflight.com/.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>Common Topics</p> <ul style="list-style-type: none">⌚ How do I connect to Wi-Fi Onboard (part of Intelsat) in flight? Use your Wi-Fi-enabled device to search and connect to the 'aainflight.com' Wi-Fi signal. If you're not redirected, open a browser and enter aainflight.com.⌚ How do I cancel my American Airlines Wi-Fi Subscription Plan?⌚ Do I need to pay for Wi-Fi service to view free entertainment?⌚ What is free entertainment?⌚ What devices can I use to access free entertainment? You can access free entertainment on Apple iOS, Android, macOS and Windows. The browsers we support are Chrome, Safari and Edge. <p>Source: https://support.aainflight.com/.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	 <p>Seatback Entertainment</p> <p>On select flights, you can enjoy free movies, TV shows, music and games on a seatback screen.</p> <p>Source: https://entertainment.aa.com/en/how-to-watch.</p>

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U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>Intelsat Global Connectivity Solution</p> <p>The global coverage and scalable capacity of the Intelsat Global Network enables streaming-quality Wi-Fi and Live TV to the entire cabin. Our access technology features a unique dual-phased-array antenna and proprietary modem for unsurpassed performance and industry-leading system availability. Intelsat can also help you efficiently manage the bandwidth you need to provide the service you want so you get the most out of your investment.</p> <p>Intelsat's open architecture design leverages today's Ku-band satellites and offers future-ready performance with high-throughput satellites (HTS). This allows Intelsat Commercial Aviation to deliver on the coverage and capacity needs for commercial airlines with global flight routes today—and tomorrow.</p> <p>The Intelsat Commercial Aviation Portfolio delivers best-in-class inflight experiences through powerful, integrated onboard systems, aero networks, and support.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.</p> <p>Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.</p>
[24.e] wherein the satellite dish, at least one router and the subscriber access unit are located in a remote location a experiencing a relatively high volume of transient traffic;	On information and belief, the American Count 5 Systems and Services include a satellite dish, at least one router, and a subscriber access unit, where the satellite dish, at least one router and the subscriber access unit are located in a remote location a experiencing a relatively high volume of transient traffic.

U.S. Patent No 7,324,469 (Claim 24)	
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	<p>Intelsat Global Connectivity Solution</p> <p>The global coverage and scalable capacity of the Intelsat Global Network enables streaming-quality Wi-Fi and Live TV to the entire cabin. Our access technology features a unique dual-phased-array antenna and proprietary modem for unsurpassed performance and industry-leading system availability. Intelsat can also help you efficiently manage the bandwidth you need to provide the service you want so you get the most out of your investment.</p> <p>Intelsat's open architecture design leverages today's Ku-band satellites and offers future-ready performance with high-throughput satellites (HTS). This allows Intelsat Commercial Aviation to deliver on the coverage and capacity needs for commercial airlines with global flight routes today—and tomorrow.</p> <p>The Intelsat Commercial Aviation Portfolio delivers best-in-class inflight experiences through powerful, integrated onboard systems, aero networks, and support.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<p>The diagram illustrates the American Count 5 Systems and Services. It features two airplanes in flight, each connected to a series of blue rectangular blocks representing data nodes. On the ground, there are three people: one wearing a headset and looking at a screen, another standing near a tower, and a third sitting at a desk. A satellite is shown in space, connected to the system via dashed lines. Two specific components are highlighted with red boxes: a cluster of cubes representing cloud storage or data processing, and a satellite dish representing ground-to-space communication. Dotted lines indicate the flow of data between these various nodes.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.</p>

U.S. Patent No 7,324,469 (Claim 24)	
Claim(s)	Example American Count 5 Systems and Services
	<h1>Reliable, High-speed Inflight Internet — Everywhere, All the Time</h1> <p>The Intelsat 2Ku Onboard System includes all the onboard hardware and software needed to deliver inflight internet access to passengers around the globe.</p> <p>The heart of the system is the satellite access technology that includes two antennas—one for the forward link, which transmits data to the aircraft, and one for the return link, which receives data.</p> <p>Built to deliver significantly more bandwidth to aircraft, our high-throughput modem minimizes service disruptions associated with beam switching, allowing faster satellite handoffs and a more consistent passenger experience.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p> <p>Enable unique inflight experiences</p> <p>Connectivity and Entertainment Services</p> <ul style="list-style-type: none">• Wi-Fi internet packages for messaging, browsing, and streaming• Live TV: With the high bandwidth delivered by Intelsat 2Ku access technology, your passengers can watch live sports, news, or other live broadcasts on their own devices or the seatback• Seatback integration with existing third-party IFE systems: Integrate connectivity with existing seatback IFE systems to enhance the passenger experience <p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p>

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[24.f] wherein the user may authenticate the subscription account and access the Internet at the remote location by establishing a data connection between the web-ready device and the router.	<p>Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.</p> <p>On information and belief, the American Count 5 Systems and Services include WiFi where the user may authenticate the subscription account and access the Internet at the remote location by establishing a data connection between the web-ready device and the router.</p> <p>On information and belief, American passengers authenticate themselves on the american.com web portal to access in-flight Wi-Fi. The authentication completes when the user enters their login credentials on the portal. Limited free Wi-Fi is available to passengers, and upgraded high-speed WiFi is available to certain American members or can be purchased.</p> <p>Wi-Fi and connectivity</p>  <p>Inflight Wi-Fi</p> <p>Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, Hulu and HBO faster than ever before.</p> <p>Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp.</p>

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	<p>Pricing</p> <p>You can always access aa.com for free during your flight.</p> <p>Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp.</p> <div style="background-color: #333; color: white; padding: 10px;"><p> ⓘ How do I connect to Wi-Fi Onboard (part of Intelsat) in flight? Use your Wi-Fi-enabled device to search and connect to the 'aainflight.com' Wi-Fi signal. If you're not redirected, open a browser and enter aainflight.com.</p></div> <p>Source: https://support.aainflight.com/.</p> <div style="background-color: #333; color: white; padding: 10px;"><p> ⓘ How do I connect to my American Airlines Wi-Fi Subscription Plan in flight? 1. Enable Wi-Fi on your device 2. Search and connect to the 'aainflight.com' Wi-Fi signal 3. Launch your web browser and go to aainflight.com and select 'Log in' 4. Enter your AAdvantage number or username and password</p></div> <p>Source: https://support.aainflight.com/.</p> <p>On information and belief, upon authentication the user may access the Internet through onboard WiFi, where a connection is established with onboard software and/or hardware including a router.</p>

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	<p>The diagram illustrates the American Count 5 Systems and Services. It shows a network connecting passengers on an airplane, ground staff, and satellite infrastructure. The network is represented by dashed lines connecting various components. A red box highlights a specific component, which appears to be a central processing unit or a server. The diagram includes icons for passengers on the plane, ground staff, a satellite, and a tower.</p> <p>Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.</p>

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	<p>In-cabin Network</p> <p>The In-cabin Network consists of the essential airborne hardware that interfaces with aircraft access technology to power the passenger experience. The Onboard Server enables wireless content access via any device, including seatback screens over the dedicated In-cabin Network.</p> <div style="display: flex; justify-content: space-around;"><div style="text-align: center;"><p>A791 MODMAN</p><p>The A791 MODMAN serves as both modem and onboard server in Service Bulletin (SB) and Linefit (LF) configurations.</p></div><div style="text-align: center;"><p>In-cabin axWAP</p><p>Wireless Access Points provide the Wi-Fi signal to devices in the cabin and support the latest 802.11 standards, including 802.11ax.</p></div></div> <p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p> <p>On information and belief, Intelsat offers WiFi solutions, used on American airplanes, that support satellite-based WiFi.</p>

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	<p>GSO Satellite Access Technology</p> <h2>Signal Transmission</h2>  <div><p>2Ku Antenna</p><ul style="list-style-type: none">• Two large aperture phased-array antennas• Advanced beam forming and steering</div>  <div><p>A791 (Taurus) MODMAN</p><p>Hosts the next-generation modem which modulates and demodulates L-band signals</p></div>  <div><p>KANDU</p><p>Provides power to the satellite antennas and uses aircraft navigational data to control its movement</p></div>  <div><p>KRFU</p><p>Upconverts L-Band signals from the modem to Ku-band and amplifies them for transmission to the satellite</p></div>
	<p>Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.</p> <p>NGSO Satellite Access Technology</p> <h2>Signal Transmission</h2>  <div><p>ESA Antenna</p><ul style="list-style-type: none">• Electronically-steered array• Multi-orbit (GEO/LEO) antenna solution• Coverage over every route</div>  <div><p>A791 (Taurus) MODMAN</p><p>Hosts the next-generation modem which modulates and demodulates L-band signals</p></div>  <div><p>PSU</p><p>Power supply unit. Supplies power to both the Rx and Tx antenna arrays</p></div>  <div><p>ACMU</p><p>Antenna-pointing and networking data unit</p></div>

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